

**REMARKS**

Claims 1-21 are pending in the application, and claims 1-3, 6, 8, 9, 16-18, 20 and 21 stand rejected.

**Rejection under 35 U.S.C §102**

Claims 1-3, 6, 8, 9, 16-18, 20 and 21 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,415,388 to Browning et al. Applicant has reviewed the reference with care, paying particular attention to the passages cited, and is compelled to respectfully disagree with the Examiner's characterization of this reference vis a vis the pending claims.

For instance, claim 1 recites, *inter alia*, "measuring instantaneous power consumption inside of the integrated circuit." The Examiner alleges that Browning teaches this at col. 2, ll. 1-2, and at col. 3, ll. 48-51. However, Browning in fact teaches that the system of his invention includes a power monitoring device 145 that is "coupled between the voltage source 120 and the microprocessor 110." The power monitoring device of Browning therefore is clearly not configured to measure instantaneous power inside the microprocessor, but rather outside of the microprocessor. This is also true of the embodiment of Fig. 3, which Browning describes as a design in which the power monitor is integrated on the dye of the microprocessor 110 (please see col. 5, ll. 37-44). However, there is no disclosure whatsoever that could even remotely be understood as teaching that even this embodiment measures power consumption inside the microprocessor (which is shown as "other microprocessor circuitry 210" in Fig. 3). The difference is not a semantic one; as Applicant's disclosure makes clear, the present invention provides sensors on a plurality of the various units that make up an integrated circuit (such as a microprocessor) to sense the power consumption of each of these units at any given time. This unique and novel approach provides the significant advantage (as described in the application at page 4, ll. 13-23) of using instantaneous power consumption to *predict* the voltage requirement before the microprocessor circuitry actually requires the new voltage. As explained in the specification, this is possible because of the internal inductance and local decoupling of the microprocessor circuitry, which delays the time required for a current surge to propagate inside the microprocessor.

There is nothing in Browning that could be understood by one skilled in the art to teach this unique approach to regulating the voltage applied to an integrated circuit, which in essence predicts the voltage required before the integrated circuit actually requires the voltage. There is nothing in Browning teaching the use of sensors on individual units of the microprocessor circuitry measuring the instantaneous power consumption of the individual units. Browning teaches measuring the “short term power consumption” of the microprocessor (not the instantaneous power consumption, but rather a “power consumption measurement [that] is considered short term as compared to the power consumption rate of change”, col. 3, l. 50) of the microprocessor externally, that is, as a whole circuit as measured across it’s power input leads, regardless of whether the entire system is contained on a single die or not, and does not teach measuring the instantaneous power consumption inside the microprocessor.

For the above reasons, Applicant respectfully submits that claim 1 is in fact patentable over Browning. Should the Examiner disagree, Applicant respectfully requests the Examiner to clearly and specifically point out where Browning discloses the features discussed above, in accordance with 37 C.F.R. 1.104(c)2.

Claims 2 and 3 depend from claim 1. In view of the above discussion, it is submitted that claim 1 is allowable, and for this reason claims 2 and 3 are also allowable.

Claim 6 recites, *inter alia*, an “integrated circuit comprising at least one unit provided with a plurality of sensors for measuring power consumption.” As discussed above, Browning does not teach nor allude to an integrated circuit that includes sensors for measuring power consumption. All power measurements by Browning are done outside of the integrated circuit. Thus, Applicant respectfully submits that claim 6 is also novel and patentable over Browning.

Claims 8, 9 and 16 depend from claim 6. In view of the above discussion, it is submitted that claim 6 is allowable, and for this reason claims 8, 9 and 16 are also allowable.

Claim 17 recites, *inter alia*, “an integrated circuit having at least one sensor for sensing instantaneous power consumption by said integrated circuit.” As discussed above with respect to claim 6, Browning does not teach nor allude to an integrated circuit that includes sensors for measuring power consumption. All power measurements by Browning are done outside of the

integrated circuit. Thus, Applicant respectfully submits that claim 6 is also novel and patentable over Browning.

Claim 18 depends from claim 6. In view of the above discussion, it is submitted that claim 6 is allowable, and for this reason claim 18 is also allowable.

Claim 20 recites, *inter alia*, "measuring instantaneous power consumption inside the integrated circuit." As discussed above with respect to claim 1, Browning does not teach nor allude to performing this function. Thus, Applicant respectfully submits that claim 20 is also novel and patentable over Browning.

Claim 21 depends from claim 20. In view of the above discussion, it is submitted that claim 20 is allowable, and for this reason claim 21 is also allowable.

Applicant has amended some of the claims to comport them to current U.S. practice. These amendments are made solely for the purpose of clarifying the scope of the claims and assisting the Examiner in identifying the differences between the cited art and the claims. Applicant expressly notes that therefore these amendments are not made for purposes related to patentability, because the amendments do not alter the scope of the claims, but rather merely clarifies them.

Applicant also acknowledges with gratitude the Examiner's indication of the allowability of claims 4-5, 10-15 and 19. However, as discussed above, and with all due respect, Applicant believes that all pending claims are in fact novel over the art.

Regarding the prior art made of record by the Examiner but not relied upon, Applicant believes that this art does not render the pending claims unpatentable.

In view of the above, Applicant submits that the application is now in condition for allowance and respectfully urges the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 08-2025. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 08-2025.

I hereby certify that this correspondence is being deposited with the United States Post Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

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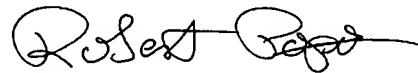


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Respectfully submitted,



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